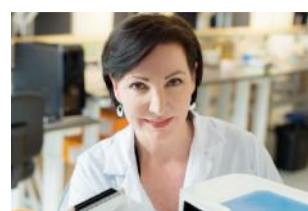


Publications of the Week
An *In Vitro* Bioengineered Model of the Human Arterial Neurovascular Unit to Study Neurodegenerative Diseases

 First Author: Jerome Robert | Senior Author: Cheryl Wellington (pictured)
 Molecular Neurodegeneration | Djavad Mowafaghian Centre for Brain Health and UBC


The authors used a tissue-engineering technique to develop a scaffold-directed, perfusable, 3D human neurovascular unit (NVU) that is cultured in native-like flow conditions that mimics the anatomy and physiology of cortical penetrating arteries. This system, composed of primary human vascular cells and induced pluripotent stem cell-derived neurons, demonstrates a physiological multilayer organization of the involved cell types. [Profile](#) | [Abstract](#)

Recurrent *Clostridioides difficile* Infection Is Associated with Impaired Th17 Immunity to *C. difficile* Toxin B

 First Author: Laura Cook (pictured) | Senior Author: Theodore Steiner
 Gastroenterology | BC Children's Hospital Research Institute and UBC


Despite the prevalence of *Clostridioides difficile* (CDI), the immune response to this pathogen is poorly characterized. Most previous studies have focused on analysis of anti-toxin antibodies, which do not correlate with protection from CDI. The authors aimed to identify distinguishing features of CD4⁺ T cell immunity in patients with primary versus recurrent CDI compared to healthy controls with no clinical history of CDI. [Abstract](#)

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Local News
Vancouver-Based Acuitas Therapeutics Makes History with First COVID-19 Vaccine Approved for Use in Canada

Acuitas Therapeutics



Vancouver-based Acuitas Therapeutics has made history with the announcement of the BioNTech/Pfizer COVID-19 vaccine receiving approval for use in Canada. Acuitas Therapeutics provided their lipid nanoparticle delivery system – a key element in the development of this vaccine. Acuitas has earned a global reputation for their work in developing lipid nanoparticles – tiny “delivery vehicles” that protect the messenger RNA vaccine after it is injected. [Read More](#)

Genomics Will Support Accurate Environmental Assessments at Mine Sites

Genome BC



Drs. Lauchlan Fraser and Jonathan Van Hamme, Science faculty members at Thompson Rivers University, recognized the need to somehow remove relic DNA to develop a truly accurate picture of the active microbial organisms present at mine sites. With funding from Genome BC, they will standardize and include protocols that can selectively analyze environmental DNA from living microorganisms. [Read More](#)

Mapping the Human Proteome: A Journey

Technology Networks



In 2020, we celebrate 90% of the human proteome being mapped by the Human Proteome Project. As Professor Chris Overall (pictured), Canada Research Chair in Proteinase Proteomics and Systems Biology at the UBC Centre for Blood Research, described, “The human genome project was a massive achievement – it really was brilliant. But it’s only the blueprint for us.” [Read More](#)

Dr. James Johnson Appointed Deputy Director of the UBC Life Sciences Institute

UBC Life Sciences Institute



Dr. Jim Johnson (pictured) has been appointed as the Deputy Director of the UBC Life Sciences Institute (LSI), commencing January 2021. Dr. Johnson brings a wealth of knowledge to the LSI leadership team. Renowned for the broad scope of his β-cell biology and diabetes research, Jim is noted for using innovative approaches to gain insight into pathways controlling β-cell function, and dysfunction. [Read More](#)

A Step Towards Improved Lubricants: Mega-HPGs and Arthritic Diseases

UBC Centre for Blood Research



In this blog post, Arshdeep Gill, a PhD Candidate in the Kizhakkedathu lab at the UBC Centre for Blood Research (pictured), provides an overview of a study from an international team co-lead by Dr. Jay Kizhakkedathu. The team published the first report of synthesizing globular polymers with molecular weights ranging from 1 to 9 million daltons. These polymers have unexpected characteristics that could allow them to be used as lubricants for patients with osteoarthritis. [Read More](#)

COVID-19 Antibody Discovery Company Preps for Massive \$391 Million IPO

BioSpace



Canadian R&D engine AbCellera, led by CEO Dr. Carl Hansen (pictured), is gearing up for a massive \$391 million IPO. Offering 23 million shares priced between \$14 and \$17 each, this IPO will be the biggest debut on record for a Canadian biotech, if successful. AbCellera’s rise to world-renown happened this year when a partnership with Eli Lilly to find the human antibody bamlanivimab secured Emergency Use Authorization with the FDA to treat COVID-19 patients. [Read More](#)

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Interesting Articles
NSERC Increases Value of Undergraduate Student Research Awards

Natural Sciences and Engineering Research Council of Canada (NSERC)



NSERC has announced that starting with the summer 2021 competition, the value of the NSERC portion of the Undergraduate Student Research Awards (USRA) will be increased from \$4,500 to \$6,000. The 25 per cent minimum contribution from the university will continue, meaning that the award will have a minimum value of \$7,500 for the student. Increasing the value of the award reflects the importance of the USRA program to NSERC. [Read More](#)

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Upcoming Events in Vancouver

December 16 1:00 PM	STEMCELL Connects Vancouver Seminar Online
December 16 2:00 PM	School of Biomedical Engineering Virtual Open House: A Sneak Peek at the Future of Medicine Online
January 18 9:30 AM	UBC Postdoctoral Fellows Research Day Online
January 19 - 20 10:00 AM	Regenerative Rehabilitation Research Symposium Online
January 22 8:45 AM	The Brain, Behaviour & Development 5th Annual Research Day Online

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- Technical Writer**
[STEMCELL Technologies](#)
- Quality Control Analyst, Analytical Testing**
[STEMCELL Technologies](#)
- Product Manager, Immunology**
[STEMCELL Technologies](#)
- Research Technologist, Cell Separation**
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Other Science Jobs in Vancouver

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UBC Faculty of Medicine
- QC Associate**
Precision NanoSystems
- Principal Scientist/Director, Preclinical**
Acuitas Therapeutics
- Research Technician**
Virogin Biotech
- Group Leader, Systems**
Canada's Michael Smith Genome Sciences Centre at BC Cancer

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